

anticipated by the Croud et al published PCT application WO 95/21283. In response to Applicants' previous arguments, the Examiner maintained that as the references teach bleaching compositions for removing stains from textiles, one of ordinary skill in the art would not make a distinction between stain removal from finished or non-finished textiles. The Examiner further asserted that the bleaching compositions of the references would inherently be as effective on non-finished textiles as on finished textiles.

As will be set forth in detail below, Applicants submit that the methods, products and substrates defined by present claims 1-33 are not anticipated by and are patentably distinguishable from the teachings of Willey et al, Showell et al, Francis et al, Thompson et al and Croud et al. Accordingly, these rejections are traversed and reconsideration is respectfully requested.

According to claim 1, the invention is directed to a method for the preparation of a non-finished textile component. The method comprises providing a non-finished textile component, saturating the textile component with an aqueous bleaching solution comprising hydrogen peroxide and a hydrophobic bleaching agent, and allowing the bleaching solution to remain in contact with the textile component for a period of time sufficient to bleach the textile component. The resulting treated textile component has a whiteness value on the CIE index of at least about 70 or a fiber degradation increase of less than about 25%.

According to claim 18, the invention is directed to a method for the batch preparation of a woven textile fabric. The method comprises providing an incoming non-finished woven fabric, passing the fabric to an aqueous bleaching solution comprising a mixture of hydrogen peroxide and a hydrophobic bleach activator or a pre-formed hydrophobic activator, heating the bleaching solution to a temperature of from about 20 to about 90°C, and allowing the bleaching solution to contact the fabric for a period of time of from about 15 to about 180 minutes.

Claims 26 and 27 are directed to products produced by the processes of claims 1 and 18, respectively. Claim 28 is directed to a substrate comprising a collection of non-finished bleached textile components wherein the substrate has a whiteness value on the CIE index of greater than about 70 and has experienced fabric strength reduction of less than about 10%.

Finally, according to claim 31, the invention is directed to a method for improving the wettability loss of textile components. The method comprises providing an incoming non-finished woven fabric, passing the fabric to an aqueous bleaching solution comprising a mixture of hydrogen peroxide and a hydrophobic bleach activator or a pre-formed hydrophobic activator, heating the bleaching solution to a temperature of from about 20 to about 90°C, and allowing the bleaching solution to contact the fabric for a period of time of from about 15 to about 180 minutes.

As set forth in the present specification, for example at page 18, beginning at line 6, non-finished textile components are materials that have not been dyed, printed or otherwise provided a finishing step such as a durable press finish. One of ordinary skill in the art will therefore recognize that the textile component of the claimed methods, products and substrates has not been passed through a garment or other manufacturing process involving cutting and sewing of the material. As also set forth in the specification, for example beginning at page 1, line 29, bleaching of such non-finished textile components is desirable in order to destroy naturally occurring color bodies and provide a uniform white appearance for consumer-acceptable whites and/or a uniform color base for subsequent dyeing or printing of the components.

In contrast to the present methods, products and substrates which employ non-finished textile components, Willey et al, Showell et al, Francis et al and Thompson et al all relate to bleaching and/or laundering of finished textile components, namely garments, and Applicants find no teaching or suggestion in any of these references relating to any method, product or

substrate employing a non-finished textile component. For example, Willey et al disclose bleaching compounds for laundry detergent compositions employed to provide effective and efficient surface cleaning of fabrics to remove stains and/or soils from the fabrics (page 7, lines 17-19). Showell et al disclose aqueous liquid bleach compositions for laundering soiled clothes, fabrics and the like (column 7, line 66 - column 8, line 8). Francis et al disclose bleaching and detergent compositions which can be used in any cleaning product requiring bleach and/or hygiene properties, such as, for example, laundry detergents, laundry bleaches, household cleaners, toilet bowl cleaners, automatic dishwashing compositions, denture cleaners, etc. (column 13, lines 9-14). Finally, Thompson et al disclose peroxygen bleach activators and bleaching compositions for detergent compositions (abstract) and for removal of stains and/or soils from textiles and, particularly, removal of dingy soils which are a blend of particulate and greasy materials that build up on textiles after numerous washings (column 6, lines 6-14).

The Examiner has asserted that one of ordinary skill in the art would not make a distinction between stain removal from finished or non-finished textiles. Applicants respectfully disagree. As discussed in the background portion of the present application, a common pretreatment step for natural fibers and textiles thereof is a bleaching step to destroy naturally occurring color bodies in the fibers and textiles. One of ordinary skill will appreciate that this bleaching treatment is not directed to a soil or stain which has been deposited on a consumer fabric, to which laundry detergents as disclosed in the cited references are directed, and which are often provided with some form of soil or stain repelling treatment during finishing, but, rather, to color bodies which are inherent to the fibers or textiles and which in the past have required severe bleaching conditions to provide acceptable whiteness or a uniform color base for subsequent dyeing, often resulting in textile damage.

Moreover, Willey et al, Showell et al, Francis et al and Thompson et al all relate to bleaching and/or laundering of finished textile components, namely garments, and Applicants find no teaching or suggestion in any of these references relating to any method, product or substrate employing a non-finished textile component. Thus, not only would one of ordinary skill in the art make a distinction between stain removal from finished or non-finished textiles, none of these references teach a treatment method for non-finished textiles.

Finally, the Examiner asserted that the bleaching compositions of these references would inherently be as effective on non-finished textiles as on finished textiles. Applicants submit that this conclusion is irrelevant to the issue of patentability since, as noted above, the references fail to teach any method, product or substrate employing a non-finished textile component.

Anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference, *In re Robertson*, 49 U.S.P.Q.2d 1949, 1950 (Fed Cir. 1999). In view of the failure of any of Willey et al, Showell et al, Francis et al and Thompson et al to teach methods, products or substrates employing non-finished textile components as required by the present claims, none of these references disclose each and every element, either expressly or inherently described, and therefore do not anticipate the present claims under 35 U.S.C. §102.

Finally, Croud et al disclose a process for bleaching textiles wherein fibers are formed into a yarn in a first step, a peroxygen source and a bleach activator compound which is an acyl donor are reacted in an aqueous solution to form a product solution comprising an oxidizing compound which is a stronger oxidizing agent than the peroxygen source, the step being carried out at an acidic pH below the pKa of the carboxylic acid corresponding to the acyl group of the activator, and, in a third step, contacting the yarn with the product solution at an acidic pH no greater than the aforementioned pKa (page 5, lines 19-32).

At page 29, Example 2, Croud et al disclose the use of TAED, DADHT and SNOBS as activators for peroxygen bleaches at acidic pH for stains in solution and on fabrics. Specifically, cotton cloth was stained with chlorophyll. Thus, Example 2 of Croud et al is not directed to a method for the preparation of non-finished textile component as recited in claim 1, a method for the batch preparation of a woven textile fabric comprising an incoming non-finished woven fabric as recited in claim 18, a collection of non-finished bleached textile components as recited in claim 28 or a method for improving the wettability loss of textile components comprising, inter alia, providing an incoming non-finished woven fabric as recited in claim 31. Rather, Example 2 of Croud et al is directed to stain removal. In view of these deficiencies in the teachings of Croud et al, Croud et al do not anticipate the presently claimed methods, products or substrates.

Further, the methods of the present invention employ hydrophobic bleaching agent (claim 1) or hydrophobic bleach activator (claims 18 and 31). While Croud et al broadly disclose numerous bleach components, the examples of Croud et al only employ bleaching components which, at the acidic pH of Croud et al, are hydrophilic. As noted in the present application, for example at page 3, beginning at line 24, it is believed that the hydrophobic bleaching components of the present invention provide better absorbency on the nonfinished textiles and better wetting of the surfaces than conventional peroxide bleaching techniques and hydrophilic activators, such as those exemplified by Croud et al. Hydrophobic bleaching components form the active bleaching species, peracid, on the surface of the fabric, allowing a longer time on the surface of the fabric. Hydrophilic activators, meanwhile, form peracid in solution and must then undergo a fabric-solution interaction, which is less efficient. As a result, the hydrophobic bleaching components fo the presently claimed methods provide superior bleaching and whiteness while minimizing fiber damage and strength reduction. Croud et al provide no teaching, suggestion or recognition in this regard, and, in fact, the

exemplary examples of Croud et al teach away from the present methods by their use of hydrophilic activators.

Moreover, the claimed methods, products and substrates defined by the dependent claims are further distinguishable from the specific teachings of Croud et al. For example, while Croud et al teach the necessity of a low pH, in fact lower than the pKa of the carboxylic acid corresponding to the acyl group of the activator, the method of claim 12 requires that the bleaching solution further comprises from about 0.5 to about 20 g/l of sodium hydroxide. One skilled in the art will therefore appreciate that the method of claim 12 is conducted at an alkaline pH, directly opposite to the teachings of Croud et al. Thus, these claims are further distinguishable from the teachings of Croud et al.

As Croud et al do not disclose each and every element of the present claims, either expressly or inherently, Croud et al do not anticipate the present claims under 35 U.S.C. §102.

It is therefore submitted that the methods, products and substrates defined by claims 1-33 are not anticipated by and are patentably distinguishable from the teachings of Willey et al, Showell et al, Francis et al, Thompson et al and Croud et al, whereby the rejections under 35 U.S.C. §102 have been overcome. Reconsideration is respectfully requested.

It is believed the above represents a complete response to the rejections set forth in the Official Action, and places the present application in condition for allowance. Reconsideration and an early allowance are respectfully requested.

Respectfully submitted,



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